

## REMARKS/ARGUMENTS

Claims 44-49 and 104-148 are active in this application.

Claims 47-49, 105-109, 111-115, 117, 118, 120-124, 127-130, 132, 133, 137-142 and 145-148 were withdrawn from consideration by the Examiner.

Claim 119 is amended to improve readability and for clarity.

No new matter is added. Favorable reconsideration is requested.

The rejections of Claims 44-46, 104, 110, 116, 119, 125, 126, 131, 134-136 and 143-144 under 35 U.S.C. § 102(b) over U.S. 4,737,265 (“Merchant”); U.S. 4,839,167 (“Yamamoto”); or U.S. 5,338,352 (“Breneman”); JP61245835 (“Ezaki”); U.S. 4,274,977 (“Koerner”); U.S. 4,559,226 (“Fogel”); EP 1055694 (“Yabuta”), EP 583814 or EP629649 (collectively “The Maroy publications”) are respectfully traversed.

These rejections are not tenable because none of the publications describe the claimed method of lowering the surface tension or the interface tension of water by adding a polymer comprising water-soluble units and units with an LCST, the units with an LCST having in water a demixing temperature of from 5 to 40 °C at a concentration of 1% by mass in water, to water in an amount sufficient to lower the surface tension or the interface tension of water. Further details follow.

It is by now well settled that the burden of establishing a *prima facie* case of anticipation resides with the Patent and Trademark Office. *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984), quoting *In re Warner*, 379 F.2d 1011, 1016, 154 USPQ 173, 177 (CCPA 1967).

As noted by the Board of Patent Appeals and Interferences in *Ex parte Skinner*, 2 USPQ2d 1788, before an Examiner can switch the burden of proof of showing non-inherency to the applicant, the Examiner must provide some evidence or scientific reasoning to establish

the reasonableness of the Examiner's belief that the claimed limitations are an inherent characteristic of the prior art. In this case, the Examiner has provided no such evidence.

Nonetheless, the failure of each cited publication to describe a polymer of water-soluble units and LCST units are set forth in detail below.

Merchant describes a blend of deoilers and demulsifiers (col. 3, lines 39-50) in which the water-soluble demulsifiers contain hydrophilic and hydrophobic ("lipophilic") groups (col. 5, lines 33-66 and col. 6, lines 33-49). However, these compounds in Merchant are not a polymer of water-soluble units and LCST units required in the claimed dispersion.

Breneman describes an organomodified silicone emulsifier (col. 2, line 13) in which heating and agitation are required to form an oil-in-water emulsion (col. 3, lines 34-35).

Breneman also describes a polyether modified polysiloxane, which is a copolymer of hydrophilic and hydrophobic monomers. These polymers do not contain water-soluble units and LCST units as in the claimed dispersion.

Yamamoto describes hair care products with an emulsion containing a hair fixative polymer which is water soluble (col. 2, line 10-23 and col. 3, lines 45-46) and can be one of several polymers listed in col. 3, lines 51-63 none of which are a polymer of water-soluble units and LCST units in the claimed dispersion. For example, in col. 3, line 51-53 of Yamamoto, a polyvinylpyrrolidone compound such as copolymer of vinylpyrrolidone and vinyl acetate is described. Both vinylpyrrolidone and vinyl acetate monomers form water-soluble units (see page 9, line 29 through page 11, line 13 of the present application) but Yamamoto does not describe a polymer with LCST units.

Ezaki describes a nonionic surfactant with a specific cloud point. Ezaki does not describe any polymer with water-soluble and LCST units as required in the present claims.

Koerner describes a water soluble emulsifier (col. 2, lines 13-18) and also describes a polyoxyethylene-polyoxypropylene-methylpolysiloxane (col. 6, lines 24-28 and Example 1 in

cols. 5-6). However, these emulsifiers and polymers are not a polymer of water-soluble units and LCST units in the claimed dispersion. Furthermore, while Koerner describes additional polymers in the Examples, all of these polymers have only LCST-type units.

Fogel describes cosmetic emulsions (col. 1, lines 10-13) with alkoxylate esters with a cloud point of less than 15°C (col. 2, lines 40-64 and col. 4, lines 46-48). However, based on the structure of the alkoxylate ester in col. 2 Fogel, it is clear that the alkoxylate ester does not contain both LCST and water-soluble units as in the polymer present in the claimed dispersion.

Yabuta describes an aqueous solution with a water-soluble polymer (page 3, ¶ 14) and provide several examples on page 11, ¶ 97 of the polymer, none of which contain water-soluble units and units with an LCST as in the polymer present in the claimed dispersion.

The Maroy publications are acknowledged on page 1, lines 24-25 of the present specification. The Maroy publications describe a polymer with water-soluble groups and LCST groups (page 2, lines 26-30 of EP '814). Maroy also describes that the groups with LCST can be copolymerized with the water-soluble groups or grafted onto a hydrosoluble skeleton (page 2, lines 34-44 of EP '814).

Maroy does not describe a polymer containing LCST units having a demixing temperature of 5 to 40°C at 1% by mass in water in the claimed method. In fact, the LCST units described in the Maroy publications do NOT have, in water, a demixing temperature of from 5 to 40°C at 1% by mass in water. Specifically, on page 2, lines 53-56 and page 3, lines 2-3 of EP '814 and col. 2, line 54 to col. 3, line 4, Maroy describes that the LCST units selected from polyethyleneglycol (POE), polyoxypropylene (POP) or polyoxide of ethylene and propylene (POEP). Furthermore, Examples 1.1, 1.2, 1.3, and 1.4 of EP '814 (Maroy) on pages 3-4, all describe polymers with POES as the LCST units, which is polyethyleneglycol

with a molecular weight of 5000 g/mol. However, these polymers have a demixing temperature above 100°C at a concentration of 1 % by mass (see page 5, line 41, page 6, lines 37-39, and page 6, lines 57-59 of EP ‘814). Therefore, these polymers cannot be the same as the polymer employed in the claimed method (having a demixing temperature of 5 to 40°C at 1% by mass in water).

In Example 2.3 (page 7) of EP ‘814 (Maroy), the polymer contains POP of a molecular weight of 600 as the LCST unit. However, unlike the polymer in the claimed method, this polymer of Maroy has a demixing temperature of 48°C at a concentration of 1 % by mass. In Example 2.5 (pages 7-8) of EP ‘814 (Maroy), the polymer contains a POEP polymer with a molecular weight of approximately 1100. However, unlike the polymer in the claimed method, this polymer has a demixing temperature above 60°C (see Figure 3 of EP ‘814).

In the Examples of EP ‘649, Maroy describes the same example as 1.2 from EP ‘814 (see the reference to French application 9210224, which is the priority application of EP ‘814 in col. 6, line 40 and lines 54-56) and Examples 4 and 5 which include POE with a molecular weight of about 5000. For the same reasons as discussed above concerning EP ‘814, these specifically described polymers have a demixing temperature above 60°C and are therefore NOT the same as the polymer set forth in the claimed method.

In view of the above, it is clear that none of the cited publications describe a polymer of water-soluble units and LCST units as in the present claims. Therefore, Applicants request withdrawal of the rejections under 35 U.S.C. § 102(b).

Applicants request that the rejection of Claims 44-46, 104, 110, 116, 119, 125, 126, 131, 134-136, and 143-144 under the doctrine of obviousness type double patenting in view

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of claims 25-67 of co-pending application no. 10/069,981 be held in abeyance since the alleged conflicting claims have not yet been patented. Further, Applicants note the following from MPEP § 822.01:

The "provisional" double patenting rejection should continue to be made by the examiner in each application as long as there are conflicting claims in more than one application unless that "provisional" double patenting rejection is the only rejection remaining in one of the applications. If the "provisional" double patenting rejection in one application is the only rejection remaining in that application, the examiner should then withdraw that rejection and permit the application to issue as a patent, thereby converting the "provisional" double patenting rejection in the other application(s) into a double patenting rejection at the time the one application issues as a patent.

The rejection of Claim 119 under 35 U.S.C. § 112, second paragraph is obviated by the amendment submitted herein.

Accordingly, withdrawal of the rejection is requested.

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Applicants also request allowance of this application.

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